GOVERNING COUNCIL  
97th session  
Rome, 2-4 May 2018

Item No. 5 on the agenda: International Interests in Mobile Equipment  
(a) Implementation and status of the Luxembourg Rail Protocol and of the Space Protocol  
(prepared by the Secretariat)

Summary  
Update on the implementation and status of the Rail and Space Protocols to the Cape Town Convention

Action to be taken  
The Governing Council is invited to take note of the progress

Mandate  
Work Programmes 2014-2016 and 2017-2019

Priority  
High

Related documents  

1. The Luxembourg Protocol to the Convention on International Interests in Mobile Equipment on Matters specific to Railway Rolling Stock (the Rail Protocol) was opened to signature in Luxembourg on 23 February 2007 and the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets (the Space Protocol) was opened to signature in Berlin on 9 March 2012. Neither of them is yet in force.

2. UNIDROIT is designated as the Depositary to both instruments. Under the Work Programme 2017-2019, the implementation of both Protocols was given the highest degree of priority (cf. UNIDROIT 2016 – A.G.(75) 8, para. 44). The present memorandum provides an update on the Institute’s Depositary functions under them and additional details on UNIDROIT’s activities regarding their promotion and implementation.
I. STATUS

3. **UNIDROIT** has been designated as the Depositary of the Luxembourg **Rail Protocol** (pursuant to its Article XXXIV(1)). The Rail Protocol will enter into force following the procedure provided for in Article XXIII.

4. As of 28 February 2018, the Luxembourg Rail Protocol was signed by seven States (France, Germany, Italy, Mozambique, Sweden, Switzerland and the United Kingdom) and ratified by two States (Luxembourg and Gabon) and one contracting Regional Economic Integration Organisation (the European Union). For the details see Annexe I.

5. **UNIDROIT** has been designated as the Depositary of the **Space Protocol** (pursuant to its Article XLVIII(1)). The Space Protocol will enter into force following the procedure provided for in Article XXXVIII. As of 28 February 2018, it has four Signatory States (Burkina Faso, Germany, Saudi Arabia and Zimbabwe). For the details, Annexe II).

II. ACTIVITIES

**General**

6. **UNIDROIT**’s responsibilities as Depositary under the Luxembourg Rail Protocol and the Space Protocol are specified in each instrument, and include the operation of a system for the receipt and notification of all instruments of ratification, declarations and other documents lodged with the Depositary.

**RECENT ACTIVITIES OF THE DEPOSITARY IN RELATION TO THE LUXEMBOURG RAIL PROTOCOL**

7. After the 96th session of the Governing Council (10-12 May 2017), His Excellency Mr Robert Rydberg, Ambassador Extraordinary and Plenipotentiary of the Kingdom of Sweden in Italy signed the Luxembourg Rail Protocol on 27 June 2017.

**ACTIVITIES OF THE RATIFICATION TASK FORCE OF THE RAIL PROTOCOL AND OTHER EVENTS**

8. The **Ratification Task Force**, established by the Rail Preparatory Commission and composed of the Co-Chairs of the Preparatory Commission, of Luxembourg, of representatives of the Rail Working Group, of Regulis SA as designated Registrar and of SITA, as well as of OTIF and **UNIDROIT**, met several times (mostly through teleconference) and organised several events also during 2017 and the first months of 2018.

9. In particular, the Ratification Task Force met in Rome on 27 September 2017 to discuss the progress of ratification in key countries. The meeting was honoured by the presence of H.E. Paul Dühr, Ambassador of Luxembourg to Italy. Prof. Anna Veneziano, Secretary-General a.i. of **UNIDROIT**, and Mr Peter Bloch, co-chair of the Preparatory Commission and Ratification Task Force, opened the meeting, in which Mr Howard Rosen (Chairman, Rail Working Group), Ms Elizabeth Hirst (Managing Director, Regulis SA), and Mr Andy Smith (SITA), were present. The Secretary-General of the Intergovernmental Organisation for International Carriage by Rail (OTIF), Mr François Davenne, and the Head of Finance and Administration of OTIF, Mr Gousébasha Gaffar, and Rail Working Group Secretary Mr Martin Fleetwood, participated via remote connection.

10. As to seminars and presentations relating to the Luxembourg Rail Protocol, on 28 March 2017, **UNIDROIT** Secretary-General, Mr José Angelo Estrella Faria, was invited to participate in a Symposium in Beijing, organised by the Treaty & Law Department of the Ministry of Commerce of the People’s Republic of China (MOFCOM) and hosted by the University of International Business
and Economics (UIBE). It was addressed to industry stakeholders and government officials and aimed to provide an understanding of the benefits of the Rail Protocol, its overall impact, the functioning of the Registry, as well as an assessment based on the Aircraft Protocol. The Symposium was opened by Mr. YE Jun (Deputy Director General, Treaty & Law Dept, MOFCOM), and Professor SHI Jingxia (Dean UIBE Law School), Mr LIU Keyi (Deputy Director, Domestic Trade Law Divisions, Treaty & Law Dept, MOFCOM) and featured presentations by the Secretary-General on the Rail Protocol and by Ms Elizabeth Hirst (Managing Director, Regulis SA -Registrar Designate of the International Registry under the Rail Protocol) on the functioning of the International Rail Registry. As an outcome of the Symposium the constitution of an Academic Study Group chaired by Prof. Gao from the Renmin University was announced.

11. On 26 October 2017, a Seminar was hosted by the Swedish Law Firm Hamilton in Stockholm, focussing on the key economic and strategic advantages of the Luxembourg Rail Protocol to the Cape Town Convention for the Swedish Rail Industry. The event, which saw the participation of members of the local rail industry and relevant stakeholders, opened with words of welcome from UNIDROIT President Prof. Alberto Mazzoni, an introduction by Mr PG Ekbom (Partner, Hamilton Advokatbyrå and Joint Chair of the Nordic Contact Group of the RWG), followed by a presentation on the Cape Town Convention and its Protocols provided by UNIDROIT Secretary-General a.i., Prof. Anna Veneziano, and an Overview and Current Status of the Rail Protocol presented by Mr Howard Rosen (Chairman of the Rail Working Group). The Seminar went on to illustrate the practical benefits of the Rail Protocol, with presentations of Mr Rosen and Mr Björn Westerberg (CEO of the Swedish Train Operators’ Association), the Operation of the International Registry (provided by Ms Elizabeth Hirst, Registrar-designate, Regulis SA), the changes the Protocol would bring about in the matters of Creditor repossession on default and insolvency (by Professor Göran Millqvist of the Stockholm Center for Commercial Law), and the Ratification process in Sweden (Ms Louise Petrelius, Legal Adviser of the Division for IP and Transport Law in the Swedish Ministry of Justice).


13. On 21 February 2018 a study commissioned by the Rail Working Group and carried out by Oxera was issued, with the aim of assessing the direct microeconomic benefits deriving from the Luxembourg Rail Protocol. The study shows that the Rail Protocol will save €19.4bn for a group of 20 countries in Europe. See a copy of this Report attached under Annexe III.

**SPACE PREPARATORY COMMISSION**

14. Pursuant to Resolution 1 of the diplomatic Conference for the adoption of a Protocol to the Convention on International Interests in Mobile Equipment on Matters specific to Space Assets adopted on 9 March 2012, a Preparatory Commission was set up to act as Provisional Supervisory Authority for the establishment of the International Registry for Space Assets. The following States agreed to serve as members of the Preparatory Commission: Brazil, the People’s Republic of China, the Czech Republic, France, Germany, India, Italy, the Russian Federation, Saudi Arabia, South Africa and the United States of America. The International Telecommunication Union (ITU) as well as representatives of the financial and commercial world were invited as observers.

15. The Fifth Session of the Preparatory Commission was held at the seat of UNIDROIT in Rome on 6 December 2017, under the Chairmanship of the former Chairman of the Commission of the Whole at the Berlin Conference Professor Sergio Marchisio. The Commission convened to discuss
the progress in, the appointment of a Supervisory Authority and the selection of the Registrar as well as a series of future promotional events for 2018. The Report of the Session is available at the following link: https://www.unidroit.org/english/documents/2017/depositary/ctc-sp/pcs-05-02-e.pdf.

16. Following the discussions held during the meeting of the Preparatory Commission, its members agreed to constitute a Sub-Group to reassess industry participation for the promotion and development of the Space Protocol. The primary purpose of this sub-group will be to reach out to members of the industry and ascertain whether they are willing to lend their support towards the Space Protocol and, if so, invite them to participate in a relaunched Space Working Group.

EVENTS RELATING TO THE SPACE PROTOCOL

17. On 2 February 2017, the Secretary-General delivered a Technical Presentation entitled “Towards the Establishment of the International Registry of Secured Interests in Space Objects: The Space Protocol to the Cape Town Convention and Rail Protocol”, during the 54th session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (Vienna, 30 January - 10 February 2017).

18. On 7 December 2017, UNIDROIT hosted a panel presentation on the challenges and opportunities of financing the space industry, featuring a keynote presentation of Tanja Masson-Zwaan (Professor, International Institute of air and space law at Leiden University). The presentation was introduced by Prof. Sergio Marchisio (Chairman of the Space Preparatory Commission), and was followed by a panel discussion including Francesco Amicucci (General Counsel, Thales Alenia Space), Oliver Heinrich (Partner, BHO Legal), Souichirou Kozuka (Professor, Gakushuin University) and Bernhard Schmidt-Tedd (Head of Legal and Business Support, DLR).

19. In the context of the promotion activities regarding the Space Protocol planned for 2018, UNIDROIT will participate inter alia in a meeting of The Hague International Space Resources Governance Working Group in Leiden and in a session on space financing at the International Astronautical Congress to be held in Bremen in October 2018.

CAPE TOWN CONVENTION ACADEMIC PROJECT

20. The Cape Town Convention Academic Project, a joint endeavour of the University of Oxford, Faculty of Law, and the University of Washington, School of Law (as well as under the auspices of UNIDROIT for the repository and the journal), held its 6th Annual Conference in Oxford on 12 and 13 September 2017, with the active participation of academics, practicing lawyers and governmental experts. Topics addressed in the presentations included an update on the preparation of the draft MAC Protocol on mining, agriculture and construction equipment (MAC Protocol), with particular regard to MAC Protocol and treaty design, an examination of the mechanism to update identification criteria, a comparative analysis of CTC accession rules for all protocols and the treatment of fixtures and land liens in the draft MAC Protocol; the power to dispose under the CTC: background, content and implications; Novation and assignments under the CTC; Injunctions and (declared) non-judicial remedies with a dispute resolution case study; A comparison of the position of buyers under the three Protocols; rules versus standards under CTC, and the relationship to gap filling and national law. For more information see http://www.ctcap.org/.

21. The next CTCAP Conference is scheduled for September 2018 in Oxford.

ACTION TO BE TAKEN

22. The UNIDROIT Secretariat would invite the Governing Council to take note of the developments in relation to the implementation of the Rail and the Space Protocols.
ANNEXE I

LUXEMBOURG PROTOCOL TO THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT ON MATTERS SPECIFIC TO RAILWAY ROLLING STOCK

PROTOCOLE DE LUXEMBOURG PORTANT SUR LES QUESTIONS SPÉCIFIQUES AU MATÉRIEL ROULANT FERROVIAIRE À LA CONVENTION RELATIVE AUX GARANTIES INTERNATIONALES PORTANT SUR DES MATÉRIELS D’ÉQUIPEMENT MOBILES

as of 28 February 2018 / au 28 février 2018

Adoption: Place / Lieu: Luxembourg
Date: 23-02-2007

Entry into force: No / Non
Entrée en vigueur: Conditions: 4 ratifications (Art. XXIII(1))

Contracting States / Etats contractants

Depositary / Dépositaire: UNIDROIT

<table>
<thead>
<tr>
<th>STATE / ETAT</th>
<th>SIGNATURE</th>
<th>RATIFICATION / ACCESS. / ADHES.</th>
<th>ENTRY INTO FORCE / ENTREE EN VIGUEUR</th>
<th>DECL. or RESERV. / DECL. ou RESERVES</th>
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<td>Gabon</td>
<td>23-02-07</td>
<td>04-04-17</td>
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<td>–</td>
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<td>Germany / Allemagne</td>
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<td>Sweden / Suède</td>
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<tr>
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<td>European Union / 1</td>
<td>10-12-09</td>
<td>18-12-14</td>
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<td></td>
<td>Union européenne</td>
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</table>

1 Regional Economic Integration Organisation / Organisation régionale d’intégration économique: Protocol(e) Article XXII
**ANNEXE II**

**PROTOCOL TO THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT ON MATTERS SPECIFIC TO SPACE ASSETS**  
**PROTOCOLE PORTANT SUR LES QUESTIONS SPÉCIFIQUES AUX BIENS SPATIAUX À LA CONVENTION RELATIVE AUX GARANTIES INTERNATIONALES PORTANT SUR DES MATÉRIELS D’ÉQUIPEMENT MOBILES**

as of 28 February 2018 / au 28 février 2018

**Adoption:**
Place: Berlin / Lieu: Berlin  
Date: 09.03.2012

**Entry into force / Entrée en vigueur:** Not in force / Pas encore en vigueur (ex Article XXXVIII)

**Depositary / Dépositaire:** UNIDROIT

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<th>ACCEPTANCE / ACCEPTATION (AC)</th>
<th>APPROVAL / APPROBATION (AP)</th>
<th>ACCESSION / ADHESION (AS)</th>
<th>DECLARATIONS</th>
<th>ENTRY INTO FORCE / ENTREE EN VIGUEUR</th>
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<td>Burkina Faso</td>
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<tr>
<td>Germany / Allemagne</td>
<td>21.11.2012</td>
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<tr>
<td>Saudi Arabia / Arabie saoudite</td>
<td>09.03.2012</td>
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<td></td>
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<td></td>
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<tr>
<td>Zimbabwe</td>
<td>09.03.2012</td>
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</table>
Luxembourg Rail Protocol: estimated impact on rolling stock financing cost in Europe

Prepared for

[Logo: RAIL WORKING GROUP]

[Logo: oxera]
### Objectives

1. Develop a solid evidence base with 20 countries across Europe
2. Develop a robust assessment of economic benefits, based on the evidence
3. Help RWG, UNIDROIT and their members to consider the country and market impact of the Protocol
4. Help governments consider the effect of the Protocol before its adoption
5. Complement the legal analysis supporting implementation / adoption of the Protocol
Summary

Direct micro-benefits from 20 countries assessed at €19.4bn

Many additional micro and macro benefits expected in addition
Context

1. Global market volume of the rail industry of €159bn per annum, including €54bn in rolling stock

2. Total market for rail supply is set to continue its growth of recent years at 2.6% per year

3. Growth in the rail market is currently constrained by the availability of funding

4. Luxembourg Rail Protocol improves availability of funds

Benefits from the Luxembourg Rail Protocol (LRP)
The Luxembourg Rail Protocol (LRP)

Financing the rail industry

Investors
- Interest / Dividend
- Loan / Equity

Legal owner / Lender
- Payment
- Title

Rolling stock manufacturer

Train operator / Lessee
- Services
- Right to use asset

Consumers (passengers / businesses)

Issue with bringing in private capital due to:
- uncertainty around the repossession of collateral for creditors
- limited legal infrastructure and tracking of assets
- cross border risks, no international registry
- no common system for identifying railway equipment worldwide

Solution: Luxembourg Rail Protocol
New global legal systems for the recognition and prioritisation of security interests held by creditors

Debtors covered
- all debtors in ratifying state

Financing covered
- Secured credit agreements
- Conditional sales contract
- Leases

Vehicles covered
- all vehicles running on tracks or above, on, or under a guideway
Features of LRP deliver both micro- and macro- benefits

<table>
<thead>
<tr>
<th>Single central global registry</th>
<th>Clear legal framework and enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Facilitates</strong> local recording, international interests and universal numbering system</td>
<td>• <strong>Covers contracting states and all debtors therein</strong> without differentiating across the type of financing structures</td>
</tr>
<tr>
<td>• Establishes clear priority among creditors</td>
<td>• Provides for <strong>clear creditor rights</strong> on termination, default, and insolvency</td>
</tr>
<tr>
<td>• Provides for <strong>real time monitoring</strong> – creditors can check rival claims to related rail equipment</td>
<td>• Recognises and regulates the <strong>security interests</strong> of financiers and other parties</td>
</tr>
<tr>
<td>• <strong>Eliminates unnecessary restructuring</strong> of security interests as transactions change</td>
<td>• Opens the way to <strong>secured finance</strong> with recourse only to the <strong>assets</strong></td>
</tr>
</tbody>
</table>

DIRECT MICRO-BENEFITS

INDIRECT MICRO-BENEFITS

MACRO-BENEFITS

Not quantified

Not quantified
LRP will reduce costs and help growth in rail transport

**Macro trends**
- Population growth
- Environmental regulation
- Technological progress

**Financing process**
- Budget constraints lead to under-investment
- Public investment
- Lightly capitalised operators
- Increased commercial participation in financing
- Access to new financial resources at lower costs:
  - Private investment
  - Inward investment
  - Asset class financing

**Outcome**
- Economy suffering from market failure
- Increase in rail transportation, at lower unit cost

**Direct Micro Benefits**
- Reduced risks and costs

**Indirect Micro Benefits**
- Easing of budget constraint

**Macro Benefits**
- Reduction in carbon emissions
- Lower unemployment
- Increased productivity and GDP
- Increased transport safety
This study focuses on the direct micro-level benefits

**Luxembourg Rail Protocol**
- Easier repossession of collateral on default
- Improved and standardized legal and operational frameworks across borders

**Direct micro-level benefits**
- Reduced risk for creditors
- Reduced transaction costs
- Reduced financial costs for train operator
- Better value for money for customers
- Macro benefits

**Indirect micro-level benefits**
- **facilitates operating leases**
  - opens up the market to new competition
  - drives standardisation of equipment and economies of scale in manufacturing
- potentially cuts **Export Credit Agency finance premia** following the Aircraft Protocol
- enables unique global identifier enabling tracking and leading to insurance, maintenance, and many other cost savings
- registration of creditor claims provides cross-border creditor protection even if no ratification in the state

**Not quantified**
Assessing direct financing cost reductions: methodology
Methodological approach

- **Consumers (passengers / businesses)**
- **Investors**
  - Interest & dividends
  - **Train operator / Lessee**
  - Services

**Financial benefits from reduced risk**

\[
\text{Cost savings} = \text{Investment} \times (\frac{\text{Pre-LRP cost of capital}}{\text{Post-LRP cost of capital}})
\]

**Steps**

1. **Step 1**: Investment
2. **Step 2**: Pre-LRP cost of capital
3. **Step 3**: Post-LRP cost of capital
4. **Step 4**: Cost savings

**Better value for money**
**Step 1: Investment to finance**

<table>
<thead>
<tr>
<th>Key assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment</strong>: assume that both the financing of new rolling stock and the refinancing of the current fleet are affected by the ratification of the LRP. Refinancing occurs when the age of a RS unit reaches 10 years or 20 years.</td>
</tr>
<tr>
<td><strong>Source of financing</strong>: assume that (i) only private financing benefits from the LRP; (ii) the share of public financing will decrease by half by 2023 due to the catalyst effect of the LRP and then remain constant from 2023 onwards.</td>
</tr>
<tr>
<td><strong>Periods</strong>: forecast from 2018 to 2047 – terminal value calculated at 2047.</td>
</tr>
</tbody>
</table>

- **2018-2022**: forecasts of new deliveries are assumed to offset retirements based on assumed asset life of 30 years.  
- **2023-2032**: model a catch-up period of higher deliveries for countries where average age of fleet exceeds 20 years, i.e. where the LRP will unlock new finance and deliveries to replace aging fleet.

### Investment

<table>
<thead>
<tr>
<th>Financing using LRP</th>
</tr>
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<tbody>
<tr>
<td>Financing new rolling stock</td>
</tr>
</tbody>
</table>

### Data (sources)

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-2022</td>
<td>Average annual market value of deliveries by type of RS by country (SCI Verkehr data)</td>
</tr>
<tr>
<td>2023-2032</td>
<td>Theoretical CAGR over a 10-year-period to account for catch-up when average fleet age &gt; 20 years (assumption)</td>
</tr>
<tr>
<td>2033-2047</td>
<td>Steady state with annual market value growing with inflation in the EU (2%) (assumption)</td>
</tr>
<tr>
<td>2048 onwards</td>
<td>Growing into perpetuity using inflation as growth rate, and discounted at the pre-LRP WACC (assumption)</td>
</tr>
</tbody>
</table>
Catch-up through reducing average age of fleet
Rational and methodology

Assets older than 40 years assumed to be gradually retired

Average fleet age therefore gradually reduces to 20 years

Countries with younger fleets

Countries with older fleets

Luxembourg Rail Protocol

Increase in access to private financing for all operators

Higher rate of investment in new fleet over a catch-up period of 10 years until the average fleet age is 20 years
Catch-up through reducing average age of fleet

**Catch-up effect**
Average fleet age assumed to be reduced to 20 years (i.e. based on 40 years asset life) over 10 years, which drives additional fleet replacement.

Countries with oldest fleets: Romania 5.9%, Hungary 5.5%, Bulgaria 3.9%, Poland 3.5%, Slovakia 3.1%, Spain 2.9%, Italy 2.3%.

Countries with youngest fleets: no catch-up.
Step 2: pre-LRP cost of capital

Cost of equity

- Leveraged beta
- Equity risk premium
- Domestic sovereign yield adjusted for inflation

Cost of debt

- Sovereign yield adjusted for inflation
- Loan margin

Beta based on the European railroad transportation industry

Equity risk premium for a mature equity market

Yield on domestic government bond, adjusted by:
- difference between long-term forecast of domestic inflation and ECB target (to account for expected exchange rate depreciation/appreciation vs euro)
- country risk premium is implicit in the domestic sovereign yield

Loan margins by credit rating for low collateralisation used by the EC in State aid cases
Step 3: post-LRP cost of capital

Cost of equity:
- Levered beta
- Equity risk premium
- Risk-free rate adjusted for inflation and country risk premium

Cost of debt:
- Risk-free rate adjusted for inflation and country risk premium
- Loan margin

Risk reduction (not quantified)

Risk reduction (quantified)

Margin reductions for higher collateralisation:

<table>
<thead>
<tr>
<th>OECD country risk classification for export credits</th>
<th>Reduction in margin from low to high collateralisation (in bp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income OECD country</td>
<td>40</td>
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<tr>
<td>Grade 3</td>
<td>145</td>
</tr>
<tr>
<td>Grade 4</td>
<td>300</td>
</tr>
<tr>
<td>Grade 7</td>
<td>600</td>
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</tbody>
</table>

Lower transaction costs assumption:
-10bp

Cost of capital savings (in bp):
- Minimum: 40
- Average: 80
- Maximum: 450
Step 4: Financial benefits

2018-2047

Cost of financing pre-LRP
Cost of capital pre-LRP x invested capital

Cost of financing post-LRP
Cost of capital post-LRP x invested capital

= Annual financial benefits

discounting

Present value of financial benefits over the period

2048 onwards

Financial benefits in 2047 for investment in new rolling stock

growing in perpetuity

discounting

Terminal value of financial benefits from 2048 onwards in present value terms

Investment to finance
Pre-LRP cost of capital
Post-LRP cost of capital
Financial benefits
Country case studies
FINANCIAL BENEFITS

20 countries
€19.4bn total benefits

Refinancing 16%
New deliveries 84%

Freight 12%
Passengers 88%

Financial savings by country in billions of Euros

- UK 3.5
- DE 3.9
- FR 2.7
- CH 1.5
- AT 1.2
- NL 0.3
- BE 0.3
- CZ 0.5
- SK 0.2
- HU 0.1
- RO 0.3
- UA 0.9
- FI 0.2
- SE 0.6
- TR 0.9
- BU 0.2
Country case studies 1/5

Present value of total savings
€3,546m
€54 per

Present value of total savings
€336m
€7 per

Present value of total savings
€2,738m
€41 per

Present value of total savings
€1,243m
€21 per

Present value of total savings
€2,526m
€45m

Present value of total savings
€313m
€22m

Present value of total savings
€1,191m
€52m

UK
FR
ES
IT
Country case studies 2/5

Country: BE
- Present value of total savings: €289m
- €25 per passenger

Country: DE
- Present value of total savings: €3,866m
- €47 per passenger

Country: NL
- Present value of total savings: €833m
- €49 per passenger

Country: CH
- Present value of total savings: €1,518m
- €181 per passenger
### Country case studies 3/5

<table>
<thead>
<tr>
<th>Country</th>
<th>Present value of total savings Passengers</th>
<th>Present value of total savings Freight</th>
</tr>
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<tbody>
<tr>
<td>CZ</td>
<td>€429m (€41 per)</td>
<td>€347m (€82m)</td>
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<td>SK</td>
<td>€231m (€43 per)</td>
<td>€207m (€24m)</td>
</tr>
<tr>
<td>AT</td>
<td>€561m (€64 per)</td>
<td>€463m (€98m)</td>
</tr>
<tr>
<td>HU</td>
<td>€135m (€14 per)</td>
<td>€128m (€7m)</td>
</tr>
</tbody>
</table>
Country case studies 4/5

<table>
<thead>
<tr>
<th>Country</th>
<th>Present value of total savings</th>
<th>Passengers</th>
<th>Freight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL</td>
<td>€113m €14 per P</td>
<td>€437m</td>
<td>€80m</td>
</tr>
<tr>
<td>SE</td>
<td>€553m €56 per P</td>
<td>€517m</td>
<td>€37m</td>
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<tr>
<td>DK</td>
<td>€111m €2m</td>
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<td></td>
</tr>
<tr>
<td>FI</td>
<td>€230m €42 per P</td>
<td>€188m</td>
<td>€42m</td>
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</tbody>
</table>

Present value of total savings:
- €113m for PL, €14 per passenger
- €553m for SE, €56 per passenger
- €111m for DK
- €230m for FI, €42 per passenger
## Country case studies 5/5

<table>
<thead>
<tr>
<th>Country</th>
<th>Present value of total savings</th>
<th>Freight Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UA</strong></td>
<td>€934m</td>
<td>€21 per</td>
</tr>
<tr>
<td></td>
<td>€251m</td>
<td>€13 per</td>
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<tr>
<td><strong>RO</strong></td>
<td>€853m</td>
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<tr>
<td></td>
<td>€247m</td>
<td>€35 per</td>
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<tr>
<td><strong>BU</strong></td>
<td>€571m</td>
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<td>€223m</td>
<td>€28m</td>
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<tr>
<td><strong>TR</strong></td>
<td>€283m</td>
<td>€251m</td>
</tr>
<tr>
<td></td>
<td>€223m</td>
<td>€23m</td>
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</table>